

IN THE CLAIMS:

Claims 1-48 (canceled)

Claim 49 (new): A shrink film for wrapping foodstuffs, comprising a plurality of the overlaid layers making up 100% of a thickness of the film, the film having a neutral plane and, starting from a layer that, in use, is in contact with foodstuffs, the film comprises:

a welding layer A having a thickness of 10% to 30% and constituting an internal layer of the film for wrapping foodstuffs, said welding layer A being selected from the group consisting of: an ionomer containing zinc; an ionomer containing sodium; a low-density polyethylene; a linear low-density polyethylene; an ethylene plastomer; and an octene plastomer;

a first adhesive layer B having a thickness of 5% to 15% and comprising an adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer;

a first barrier layer C for acting as a barrier to aqueous steam, the first barrier layer C having a thickness of 10% to 20% and comprising a polyamide polymer selected from the group consisting of: PA 6; PA 6/66; amorphous PA; aliphatic PA; a mixture thereof alone; and a mixture thereof with addition of a terionomer;

a second adhesive layer D having a thickness of 10% to 20% and comprising an adhesive polymer selected from the group consisting of: a terionomers; a copolymer of ethylene modified with maleic anhydride; and EVA/ethylene methacrylic acid copolymer;

a second barrier layer E having a thickness of 10% to 20% and comprising a polyamide polymer selected from selected from the group consisting of: PA 6; PA 6/66;

amorphous PA; aliphatic PA; a mixture thereof alone; a mixture thereof with the addition of a terionomers; PVA; PGA; and PVG;

a third adhesive layer F having a thickness of 5% to 15% and comprising a adhesive polymer selected from the group consisting of: a terionomer; a copolymer of ethylene modified with maleic anhydride; and an EVA/ethylene methacrylic acid copolymer; and

a third barrier layer G acting as a barrier to aqueous steam and having a thickness of 5% to 25%, the third barrier layer G comprising a polyamide polymer selected from the group consisting: of PA 6 and PA 6/66;

wherein one of the barrier layers E and G are outer layers and at least one of said outer layers has a lower melting point temperature than other layers in the film;

wherein three layers of the film comprise polymers having a Young's modulus that is higher than that of the polymers comprising the other layers, one of said three layers with a higher Young's modulus being one of the two outer layers of the film, and the other two layers with a higher Young's modulus are other, inner layers of the film;

wherein each of said three layers with a higher Young's modulus is separated from the other layers with a higher Young's modulus by at least one layer with a lower Young's modulus;

wherein said three layers with a higher Young's modulus are impermeable to gases; and

wherein said two layers with a higher Young's modulus which are the other inner layers of the film, are located on the opposite side, in relation to a neutral plane of the film, from the layer with a higher Young's modulus which lies on the outside of the film.

Claim 50 (new): The film as claimed in claim 49, wherein said outer layers comprise

non-cross-linked thermoplastic polymers and wherein the material that comprises one of the outer layers melts at a lower temperature than the materials that comprises the other layers.

Claim 51 (new): The film as claimed in claim 49, wherein the sequence of all the layers comprising said film, and their thickness, from which the distance of each of said layers from the neutral plane of said film derives, are determined in such a way that a sum of moments exerted by said layers in relation to said neutral plane after the process of biaxial orientation is nil:

wherein the moment exerted by a single layer in relation to the neutral plane is equal to the product of the membrane force exerted by said layer and the distance of an average plane of said third adhesive layer from the neutral plane of the film; and

wherein the membrane force exerted by said layer is equal to the product of the Young's modulus of the material which comprises said layer, the thickness of said layer and the prevented shrinkage, expressed as a percentage.

Claim 52 (new): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprising a terionomer; said first barrier layer C comprising of a polyamide polymer PA6/66; said second adhesive layer D comprising a terionomer; said second barrier layer E comprising a polyamide polymer PA 6/66; said third adhesive layer F comprising a terionomer; said third barrier layer G comprising a polyamide polymer PA 6/66.

Claim 53 (new): The film as claimed in claim 49, wherein: said welding layer A

comprises of an ionomer containing zinc or sodium; said first adhesive layer B comprising a terionomer; said first barrier layer C comprising a mixture of polyamides PA 6/66 and aliphatic PA; said second adhesive layer D comprising a terionomer; said second barrier layer E comprising a polyamide polymer PA 6/66; said third adhesive layer F comprising a terionomer; said third barrier layer G comprising of PA 6/66.

Claim 54 (new): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprising a terionomer; said first barrier layer C comprising a mixture of polyamides PA6/66 and amorphous PA blended with a terionomer; said second adhesive layer D comprising a terionomer; said second barrier layer E comprising a polyamide polymer PA 6/66; said third adhesive layer F comprising a terionomer; and said third barrier layer G comprising a polyamide polymer PA 6/66.

Claim 55 (new): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprising a terionomer; said first barrier layer C comprising a polyamide polymer selected from among polyamides PA6/66; said second adhesive layer D comprising a terionomer; said second barrier layer E comprising a mixture of polyamides PA 6/66 and amorphous PA; said third adhesive layer F is comprising a terionomer; and said third barrier layer G comprising a polyamide polymer PA 6/66.

Claim 56 (new): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprising

a terionomer; said first barrier layer C comprising a polyamide PA 6/66; said second adhesive layer D comprising a terionomer; said second barrier layer E comprising a mixture of polyamides PA 6/66 and amorphous PA blended with a terionomer; said third adhesive layer F comprising a terionomer; and said third barrier layer G comprising a polyamide polymer PA 6/66.

Claim 57 (new): The film as claimed in claim 49, wherein said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprising a terionomer; said first barrier layer C comprising polyamide PA6/66; said second adhesive layer D comprising of a terionomer; said second barrier layer E comprising an aliphatic PA polymer; said third adhesive layer F comprising a terionomer; and said third barrier layer G comprising polyamide polymer PA 6/66.

Claim 58 (new): The film as claimed in claim 49, wherein said welding layer A comprises an ethylene or octene plastomer; said first adhesive layer B comprises LLDPE modified with maleic anhydride; said first barrier layer C comprising a mixture of polyamides PA 6/66 and amorphous PA; said second adhesive layer D comprising LLDPE modified with maleic anhydride; said second barrier layer E comprising a polyamide polymer PA 6/66; said third adhesive layer F comprising LLDPE modified with maleic anhydride; and said third barrier layer G comprising a polyamide polymer PA 6/66.

Claim 59 (new): The film as claimed in claim 49, wherein said welding layer A comprises LLDPE; said first adhesive layer B comprising LLDPE modified with maleic anhydride; said first barrier layer C comprising a mixture of polyamides PA 6/66 and

amorphous PA; said second adhesive layer D comprising LLDPE modified with maleic anhydride; said second barrier layer E comprising a polyamide polymer PA 6/66; said third adhesive layer F comprising LLDPE modified with maleic anhydride; and said third barrier layer G comprising a polyamide polymer PA 6/66.

Claim 60 (new): The film as claimed in claim 49, wherein said welding layer A comprises LDPE; said first adhesive layer B comprises an EVA/ethylene methacrylic acid copolymer; said first barrier layer C comprising a mixture of polyamides PA 6/66 and PA 6; said second adhesive layer D comprising an EVA/ethylene methacrylic acid copolymer; said second barrier layer E comprising a polyamide polymer PA 6/66; said third adhesive layer F comprising an EVA/ethylene methacrylic acid copolymer; and said third barrier layer G comprising a polyamide polymer PA 6/66.

Claim 61 (new): The film as claimed in claim 49, wherein said welding layer A comprises ionomers containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises a polyamide PA6/66; said second adhesive layer D comprises an EVA/ethylene methacrylic acid copolymer; said second barrier layer E comprises PVA; said third adhesive layer F comprises an EVA/ethylene methacrylic acid copolymer; and said third barrier layer G comprises a polyamide polymer PA 6/66.

Claim 62 (new): The film as claimed in claim 49, wherein: said welding layer A comprises an ionomer containing zinc or sodium; said first adhesive layer B comprises a terionomer; said first barrier layer C comprises polyamide PA6/66; said second adhesive layer D comprises an EVA/ethylene methacrylic acid copolymer; said second barrier layer

E comprises of PGA; said third adhesive layer F comprises of an EVA/ethylene methacrylic acid copolymer; and said third barrier layer G comprises of a polyamide polymer PA 6/66.

Claim 63 (new): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium, a low-density polyethylene or linear low-density polyethylene, or an ethylene or octene plastomer;

said first adhesive layer B has a thickness of 10% and comprises an adhesive polymer selected from the group consisting of: ethylene copolymers, terionomers modified with maleic anhydride, and EVA/ethylene methacrylic acid copolymer;

said first barrier layer C has a thickness of 15% and comprises a polyamide polymer selected from the group consisting of PA 6, PA 6/66, amorphous PA, aliphatic PA, and a mixture thereof, possibly with the addition of terionomers;

said second adhesive layer D has a thickness of 15% and comprises an adhesive polymer selected from the group consisting of terionomers, copolymers of ethylene modified with maleic anhydride and EVA/ethylene methacrylic acid copolymer, and which is the same as or different from said first adhesive layer;

said second barrier layer E has a thickness of 15% and comprises a polyamide polymer selected from the group consisting of PA 6, PA6/66, amorphous PA, aliphatic PA and a mixture thereof, possibly with the addition of terionomers, and which is the same as or different from said first barrier layer;

said third adhesive layer F has a thickness of 10% and comprises an adhesive polymer selected from the group consisting of terionomers, copolymers of ethylene modified with maleic anhydride, and EVA/ethylene methacrylic acid copolymer, and which

is the same as or different from said layers B and D; and

said third barrier layer G has a thickness of 15% and comprises polyamide PA 6 or PA 6/66.

Claim 64 (new): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises a polyamide PA6/66;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a polyamide polymer PA 6/66;

said third adhesive layer F has a thickness of 10% and comprises a terionomer;

said third barrier layer G has a thickness of 15% and comprises a polyamide polymer PA 6/66.

Claim 65 (new): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises a mixture of polyamides PA 6/66 and aliphatic PA;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a polyamide

polymer PA 6/66;

said third adhesive layer F has a thickness of 10% and comprises a terionomer; and

said third barrier layer G has a thickness of 15% and comprises a polyamide polymer PA 6/66.

Claim 66 (new): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises a mixture of polyamides PA 6/66 and amorphous PA blended with a terionomer;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a polyamide polymer PA 6/66;

said third adhesive layer F has a thickness of 10% and comprises a terionomer; and

said third barrier layer G has a thickness of 15% and comprises a polyamide polymer PA 6/66.

Claim 67 (new): The film as claimed in claim 49, wherein:

said welding layer A has a thickness of 20% and comprises an ionomer containing zinc or sodium;

said first adhesive layer B has a thickness of 10% and comprises a terionomer;

said first barrier layer C has a thickness of 15% and comprises polyamide polymer PA6/66;

said second adhesive layer D has a thickness of 15% and comprises a terionomer;

said second barrier layer E has a thickness of 15% and comprises a mixture of polyamides PA6/66 and amorphous PA;

said third adhesive layer F has a thickness of 10% and comprises a terionomer; and

said third barrier layer G has a thickness of 15% and comprises a polyamide polymer PA 6/66.